

What is claimed is:

1. [An audio and video signal] A recording and reproduction apparatus for recording and reproducing at least one of audio and video signals comprising:
- a data recording unit for recording at least one of audio and video signals;
 - a data reproduction unit for reproducing at least one of audio and video signals; and
 - a separable storage unit for storing data [by] from said data recording unit and outputting stored data through said data reproduction unit;
- wherein said data reproduction unit [comprises:] includes
- a keyed input unit for selecting a mode according to the function of a keyed input; -
 - a [microcomputer] controller for encoding and decoding an input signal according to the output of said keyed input unit; and
 - [a filter unit for filtering audio signals output from said microcomputer; and]
 - a data display for displaying data searched according to the output of said controller [microcomputer].
2. [An audio and video] A signal recording and reproduction apparatus according to claim 1, wherein said data recording unit comprises:
- a data selector for selecting a mode and data according to the control of said controller [microcomputer];
 - a system control for generating clock and control signals according to output of said data selector;
 - a data compressor for converting an input analog signal to a digital signal and compressing the resulting digital signal according to the control of said system control;
 - a memory control for generating memory control signals and addresses

Cl

sub
at
cont.

09365183 083199

according to the control of said system control;
 a memory for storing compressed data output by said data compressor according to the control of said memory control; and
 an interface unit for performing data input/output operations between said memory and separable storage unit according to the control of said system control.

3. [An audio and video] A signal recording and reproduction apparatus according to claim 1, wherein said data reproduction unit additionally comprises:

a video signal Digital/Analog converter for Digital/Analog converting video data output from said controller [microcomputer]; and

a display for displaying video data output from said video signal Digital/Analog converter.

[4. An audio and video signal recording and reproduction apparatus according to claim 1, wherein said filter unit comprises:

a first low pass filter for filtering an audio left channel signal output from said microcomputer; and

a second low pass filter for filtering an audio right channel signal output from said microcomputer.]

5. [An audio and video] A signal recording and reproduction apparatus comprising:

a data recording unit for recording at least one of audio and video signals;

a data reproduction unit for reproducing at least one of audio and video signals; and

a separable storage unit for storing data [by] from said data recording unit and outputting stored data through said data reproduction unit;

Sub
a1

Sub
a2

0936183 033130 "E8T98E50"

wherein said separable storage unit
[comprises:] includes

a memory array for storing data;

an address generator for generating addresses
for specifying regions of said memory
array;

a data interface unit for performing
input/output operations on data stored
in said memory array; and

a control unit for controlling said address
generator and data interface unit. } *not shown*

✓6. [An audio and video] A signal recording
and reproduction method for recording
and reproducing at least one of audio
and video signals comprising the steps
of:

reading a keyed signal when the keyed signal
is input;

processing data when the input key signal is a
record signal and storing the result in a
separable storage unit;

reproducing and outputting data stored in said
separable storage unit if the keyed
input is determined as a reproduction
signal; and

reading and displaying a content table of data
stored in the separable storage unit if
the keyed input is determined as a
search signal;

wherein said processing step [comprises]
includes the steps of[:].

Analog/Digital converting input data;

encoding said Analog/Digital converted data;
and

storing said encoded data in a separable
storage unit.

7. [An audio and video] A signal recording
and reproduction method according to claim
6, wherein said encoding step comprises the
steps of:

encoding [any] at least one of audio data and
video data; and

encoding any video data].

8. [An audio and video] A signal recording
and reproduction method according to claim

*Sub
a2*

*Sub
c2*

00386183 003199
00386183 003199

7, wherein said step of encoding [audio data] comprises the steps of:
 subband-sampling [said] audio data;
 quantizing and coding said subband-sampled data; and
 packing said coded data.

9. [An audio and video] A signal recording and reproduction method according to claim 7, wherein said step of encoding [video data] comprises the steps of:
 restructuring [the] a frame of [said] video data,
 detecting motion components of said restructured data;
 motion estimating the data to form motion estimated data; and
 transforming and coding said motion estimated data into data of specified frequencies.

10. [An audio and video] A signal recording and reproduction method according to claim 6, wherein said data reproducing step comprises the steps of:
 memory accessing said stored data in a separable storage unit;
 Digital/Analog converting said decoded data; and
 outputting said Digital/Analog converted data.

[11. An audio and video signal recording and reproduction method according to claim 10, wherein said decoding step comprises the steps of:
 decoding any audio data stored in a separable storage unit; and
 decoding any video data stored in a separable storage unit.]

12. [An audio and video] A signal recording and reproduction method according to claim 11, wherein said step of decoding audio data comprises] further comprising the steps of:
 unpacking [any] accessed compressed audio data stored in a separable storage unit;
 restructuring said unpacked data to form restructured data, and

09386183.033199

Sub
a3

inverse-subband-sampling said restructured data.

13. [An audio and video] A signal recording and reproduction method according to claim (11),^b [wherein said step of decoding video data comprises] further comprising the steps of:

inverse-transforming and decoding [said] ~~accessed compressed~~ video data stored in a separable storage unit into a time domain data; and

storing and restructuring the frame of said ~~decoded~~ data.

- ✓ 14. A system for transferring at least one of audio data and video data, comprising:

a data storage unit storing compressed data, said compressed data is, at least one of audio and video data;

a control system selecting compressed data stored in said data storage unit, and controlling transfer of said selected compressed data to a separable memory device, said separable memory device being a memory device other than a disk medium or a tape medium.

15. The system of claim 14, wherein said compressed data is compressed and encoded data.

16. The system of claim 14, wherein said control system comprises:

a selector generating data select signals indicating which of said compressed data in said data storage unit to select;

a system controller generating control signals according to said data select signals; and

a memory controller sending read addresses to said data storage unit based on said control signals so that said selected data is output from said data storage unit.

17. The system of claim 16, wherein said control system further comprises:

00306133 003109
66 FEB 00 13 19 60

Sub
C3

said system controller controls said data compressor and controls said memory controller such that said memory controller generates write addresses and output of said data compressor is stored in said data storage unit in accordance with said write addresses.

said selector generates said data select signals based on said user input.

said selector generates said data select signals based on said user input.

a data display displaying said content information.

said system controller controls said
interface unit.

22. The system of claim 16, further comprising:

an interface unit transferring said selected compressed data output from said data storage unit to said separable memory device; and wherein
said system controller controls said interface unit.

23. The system of claim 14, further comprising:
said separable memory device for storing data.

24. A system for transferring at least one of audio data and video data, comprising:

a data storage unit storing compressed data, said compressed data being at least one of audio data and video data;

a selector generating data select signals indicating which of said compressed data in said data storage unit to select;

a system controller generating control signals according to said data select signals; and

a memory controller sending read addresses to said data storage unit based on said control signals so that said selected data is transferred from said data storage unit to a separable memory unit.

25. A reproducing apparatus for reproducing at least one of audio data and video data, comprising:

a key input unit for receiving user input designating one of a plurality of operation modes;

a data display for displaying information relating to at least one of said operation modes;

a processing system accessing and decompressing compressed data stored in a separable memory device based on said user input, said separable memory device being a memory device other than a disk medium or a tape medium, and said compressed data being at least one of audio data and video data; and

0936133 083199

Sub
C4

Sub
C5

534 ~~an output unit outputting said decompressed data.~~

~~26. The reproducing apparatus of claim 25, wherein said output unit comprises:~~

~~a digital-to-analog (D/A) converter converting said decompressed data into an analog signal; and~~

~~an analog presentation device providing a presentation based on said analog signal.~~

~~27. The reproducing apparatus of claim 26, wherein~~

~~said compressed data is video data; and said analog presentation device is a video display.~~

~~28. The reproducing apparatus of claim 25, wherein~~

~~said processing system accesses content information from said separable memory device when said user input is a search request, said content information describing said compressed data stored in said separable memory device; and~~

~~said data display displays said accessed content information.~~

~~29. The reproducing apparatus of claim 25, further comprising:~~

~~said separable memory device for storing data.~~

~~30. The reproducing apparatus of claim 25, wherein~~

~~said compressed data is encoded; and said processing system decodes said decompressed data.~~

Sub
Ch ~~31. A recording and reproducing apparatus for recording and reproducing at least one of audio data and video data, comprising:~~

~~a separable memory device, said separable memory device being a memory~~

09733133.0831.99

device other than a disk medium or a tape medium;

a data storage unit storing compressed data;

a control system selecting compressed data stored in said data storage unit, and controlling transfer of said selected compressed data to said separable memory device;

a key input unit for receiving user input designating one of a plurality of operation modes;

a data display for displaying information relating to at least one of said operation modes;

a processing system accessing and decompressing compressed data stored in said separable memory device based on said user input; and

an output unit outputting said decompressed data.

Sub
ch
✓32. A recording and reproducing apparatus for recording and reproducing at least one of audio data and video data, comprising:

a separable memory device;

a data storage unit storing compressed data;

a selector generating data select signals indicating which of said compressed data in said data storage unit to select;

a system controller generating control signals according to said data select signals;

a memory controller sending read addresses to said data storage unit based on said control signals so that said selected data is transferred from said data storage unit to a separable memory device;

an input unit for receiving user input designating one of a plurality of operation modes;

a data display for displaying information relating to at least one of said operation modes; and

09385183 "083199

52
 a processing system accessing and decompressing compressed data stored in said separable memory device based on said user input.

33. A method for transferring at least one of audio data and video data, comprising:
 storing compressed data in a data storage unit, said compressed data is at least one of audio and video data;

selecting compressed data stored in said data storage unit; and
 transferring said selected compressed data to a separable memory device, said separable memory device being a memory device other than a disk medium or a tape medium.

34. The method of claim 33, wherein said compressed data is compressed and encoded data.

35. The method of claim 33, wherein said transferring step comprises:
 generating data select signals indicating which of said compressed data in said data storage unit to select;

generating control signals according to said data select signals; and
 sending read addresses to said data storage unit based on said control signals so that said selected data is output from said data storage unit.

36. The method of claim 35, further comprising:
 compressing a data signal;
 generating write addresses; and wherein said storing step stores said compressed data in said data storage unit in accordance with said write addresses.

37. The method of claim 36, further comprising:
 receiving user input; and wherein

0930613-03349
 156T E80" EBT 98350

said generating data select signals step generates said data select signals based on said user input.

38. The method of claim 35, further comprising:

receiving user input; and wherein said generating data select signals step generates said data select signals based on said user input.

39. The method of claim 38, further comprising:

controlling said data storage unit such that said data storage unit outputs content information when said user input is a search request, said content information describing said compressed data stored in said data storage unit; and displaying said content information.

40. A method for transferring at least one of audio data and video data, comprising:

storing compressed data in a data storage unit, said compressed data being at least one of audio data and video data;

selecting compressed data stored in said data storage unit;

controlling transfer of said selected compressed data to a separable memory device;

generating data select signals indicating which of said compressed data in said data storage unit to select;

generating control signals according to said data select signals; and

sending read addresses to said data storage unit based on said control signals so that said selected data is output from said data storage unit.

41. A method for reproducing at least one of audio data and video data, comprising:

receiving user input designating one of a plurality of operation modes;

0978618.031960

Sub
C1

Sub
C2

displaying information relating to at least one of said operation modes;

first accessing compressed data stored in a separable memory device based on said user input, said separable memory device being a memory device other than a disk medium or a tape medium, and said compressed data being at least one of audio data and video data; and
decompressing said accessed compressed data.

42. The method of claim 41, further comprising:

converting said decompressed data into an analog signal; and

providing a presentation on an analog presentation device based on said analog signal.

43. The method of claim 42, wherein said compressed data is video data; and said analog presentation device is a video display.

44. The method of claim 41, wherein said second accessing step accesses content information from said separable memory device when said user input is a search request, said content information describing said compressed data stored in said separable memory device; and said displaying step displays said accessed content information.

45. The method of claim 41, wherein said compressed data is encoded; and further including decoding said decompressed data.

46. A method for recording and reproducing at least one of audio data and video data, comprising:

storing compressed data in a data storage unit;

selecting compressed data stored in said data storage unit;

156T E80" E8T9EE60

Sub C9

transferring said selected compressed data to a separable memory device, said separable memory device being a memory device other than a disk medium or a tape medium;

receiving user input designating one of a plurality of operation modes;

displaying information relating to at least one of said operation modes;

accessing compressed data stored in said separable memory device based on said user input; and

decompressing said accessed compressed data.

✓ 47. A method for recording and reproducing at least one of audio data and video data, comprising:

storing compressed data in a data storage unit;

generating data select signals indicating which of said compressed data in said data storage unit to select;

generating control signals according to said data select signals;

sending read addresses to said data storage unit based on said control signals so that said selected data is transferred from said data storage unit to a separable memory device;

receiving user input designating one of a plurality of operation modes;

displaying information relating to at least one of said operation modes;

accessing compressed data stored in said separable memory device based on said user input; and

decompressing said accessed compressed data.

093361B3 033199

*add 1
a4*

ADD 1